6. Recent Trends and Future Outlook

While there are marked differences among programs, their mission statements are basically consistent on three major points, which are reflected in the ISO draft on general principles (14020):

- the objective of environmental labels (and declarations) is market-driven continuous environmental improvement;
- this will occur if labels can increase the demand for and supply of environmentally preferable products and services; and
- ecolabels should communicate verifiable, accurate, non-deceptive information on the environmental attributes of products and services.

Many involved in the formulation of environmental policy and those affected by it see environmental labeling as one tool that differs dramatically from regulatory command-and-control approaches affecting manufacturing, yet may offer society a market-based means of capitalizing on (individual) consumers' interest in environmental protection and improvement. To date, the effectiveness of labels as a policy tool has not been thoroughly studied. Some successes, such as Blue Angel's low-VOC paint labeling, have been documented, but worldwide there is insufficient market penetration to make accurate assessments of environmental labeling's value. This section identifies a number of overview findings that provide context for the future of environmental labeling in the near term:

- There is a marked trend toward globalization of previously domestic programs;
- There is a widespread commitment by the programs to standardize methodologies and harmonize programs; and
- There are several issues (e.g., free trade agreements) that, depending upon their resolution, may drive wedges between programs or otherwise constrain the growth and use of environmental labeling, particularly third-party labeling programs, as a policy tool.

A wide range of government policy makers, manufacturers, and consumers are acutely interested in whether these trends will continue. Many labeling programs and some manufacturers have made significant investments in order to participate or compete in labeling. Objections to the use of environmental labeling have come from several sectors. Certain trade officials and manufacturers, fearing possible loss of their competitive position, have objected to the use of LCA-based product standards as contrary to GATT. Companies that do not want the added costs of certification or having to place an environmental claim on their labels have also raised complaints. Some foreign manufacturers see ecolabeling programs as a form of protectionism for domestically manufactured goods. Proponents see labeling as a relatively non-intrusive policy tool with which to make more transparent the environmental attributes of goods and services. The future level of environmental labeling activity in the US and world markets depends on a diverse combination of factors including: prevailing economic conditions; political support for and opposition to global free trade, societal commitment to consumer right-to-know; ambient

environmental quality and goals; local conditions that might affect the environmental impacts of manufacture; consumer use of labeling information; the development of standardized methodologies and operating practices for environmental labeling programs worldwide; and their individual and collective success in the marketplace.

6.1. The Proliferation and Globalization of Environmental Labeling Programs

Of the programs for which information could be collected, 17 had formed as of 1989. By 1997, the number had grown to 49. This proliferation has occurred for many reasons, including market-specific reasons. In addition to the increased number, the operations of and interactions among programs is expanding beyond their domestic origins. From a larger perspective, there are several drivers of program proliferation and globalization:

- trade in goods has become increasingly global;
- there has been increasing recognition of consumers' right to know in the US and abroad;
- competitive pressures on manufacturers and countries to initiate programs have arisen; and
- new programs have been able to accelerate their development based on the experience of and information generated by existing programs.

As mentioned earlier, foreign trade in proportion to domestic consumption of goods has increased over the past fifteen years. International trade worldwide has increased from $4.0 trillion in 1985 to $7.3 trillion in 1993. Environmental labeling programs have responded to the changing pattern of trade and consumption in a number of ways. Programs are having to consider logistical and cost recovery issues related to evaluations of imported products and to factor in imports in certain market analyses. In addition, certain programs have been involved in facilitating the entry of their own country's exports into foreign markets where environmental labeling exists.

Governmental consumer right-to-know initiatives in the US (e.g., the Toxics Release Inventory, the Federal Aviation Administration's publication of airline performance statistics, and EPA's Consumer Labeling Initiative) and abroad (e.g., UNEP's Food and Agriculture Organization's 1985 Code of Conduct on the Distribution and Use of Pesticides, as amended in 1989, which establishes the principle of shared responsibility of governments and others to ensure consumers are informed and safe through a variety of means including product labeling) have established the right of consumers to have access to information on potential health and (local) environmental hazards. Non-governmental right-to-know initiatives may take the form of grass root movements, such as boycotts, information dissemination such as environmentally-oriented buying guides, or petitions establishing statutory requirements, such as California's Prop 65. At the same time, consumer environmental interests have broadened to include information on other environmental attributes, such as possible environmental impacts at remote locations — often expressed as concern for sustainable production practices. Product labeling is among one of the most direct ways to summarize and transmit to consumers assessments of the products' environmental attributes.

New programs have been created for a wide variety of reasons. Among the mission statements submitted, one of the most frequently cited goals is to inform and provide information to (domestic) consumers, although no programs referenced a consumer demand study when providing background on their formation. However, competitive positioning of manufacturers, trade ministries, and governments has also played a role in the genesis of particular programs. For example, the Indian government has asked several research institutions in the country to provide local textile manufacturers with information about dyes that have been banned by the EU, one of India's largest textile importers. The government and universities are providing Indian textile manufacturers information about these dyes as well as information about alternative, less toxic dyes.

In an effort to move toward equivalency, harmonization, and/or mutual recognition, the Global Environmental labeling Network (GEN) was formed by national and multinational ecolabel licensing organizations. "The GEN shall foster cooperation, information exchange, and longer-term harmonization with regard to environmental labeling..." and "... shall promote environmental labeling programs worldwide." The short-term objectives of GEN are to create an ongoing framework for information exchange, to ensure that the interests of environmental labeling programs are represented, and to provide a forum for regular member meetings. In addition, their long-term goals include moving toward harmonization and offering information to developing programs. To the extent that groups such as GEN are successful in reducing the barriers to entry, the number of labeling programs may continue to grow.

Thus far, GEN has 20 members.[12] While membership is open to all national and multinational environmental labeling licensing organizations, they must meet the following criteria:

- based solely on voluntary participation for potential licensees;
- run by not-for-profit organizations without commercial interests;
- exhibit independence from undue commercial interests;
- the source of funding shall not create a conflict of interest;
- seek advice from, and consult with, stakeholder interests;
- legally protected logo;
- determination of criteria based on an assessment of the overall life of a product category;
- open access to potential licensees from all countries;
- criteria levels established to encourage the production and use of products and services that are significantly less damaging to the environment than other products; and

[12]They include Austria, Brazil, Canada, Croatia, Germany, Greece, Israel, Japan, Korea, Luxembourg, New Zealand, Norway, Spain, Sweden, Swedish Society for Nature Conservation, Taiwan (ROC), Thailand, US, and UK.

- periodic review, and if necessary, update of both environmental criteria and categories, taking into account technological and market place development.[13]

Coordination and cooperation among labeling programs increases the ability of new programs to accelerate their development based on the experience of and information generated by existing programs. For more developed programs, such cooperation can facilitate development of new product categories or award criteria. One example of inter-program coordination is Green Seal and Canada's TerraChoice. Both programs recognize each other's product criteria, and have adopted each other's product criteria for certain product categories.

The increased pace of information transfer has also been fostered by the efforts of several international organizations, most notably GEN and ISO. Still slightly less than one-half of the programs responding (21 of 49) reported that they actively work with programs in other countries.

In addition to information transfer, programs have also explored several other harmonization measures that reduce the hurdles of program formation and development. In general, such measures recognize the research and judgments of another program, falling into two categories: mutual recognition and technical equivalence. Mutual recognition means that two or more programs agree to recognize each other's licensed seal or product assessment. The underlying premise for mutual recognition is that each program sufficiently captures the environmental attributes of products given differing local conditions. That is, a product having received a label in one program is eligible for a label from the second program (typically in another country or market) and need not undergo complete product evaluation again. For example, paper products that have been certified under the EU ecolabling program need not go through additional evaluation if they seek to receive the Nordic Swan label. Technical equivalence means that two or more programs view the other's product category definition, award criteria, and/or product assessment methodology as essentially the same as their own. This is true of certain product categories common to both the US Green Seal program and Canada's TerraChoice program. Programs can use technical equivalence as a basis for coordinating research, information gathering, and even mutual recognition.

6.2. Standardization

Since 1992, many labeling programs have participated in a variety of standardization and harmonization efforts. Most significant is the international coordination of developing standardized definitions, analytical procedures, and program characteristics under the auspices of ISO. Product evaluation and program standards are being developed by ISO for two types of third-party programs: Type I applies to seal-of-approval programs; Type III applies to eco-profiles, or report cards. As part of this research, programs were asked about their level of participation in

[13]From World Wide Web site http://www.interchg.ubc.ca/ecolabel/gen.html

the ISO process and the program's commitment to ISO draft and/or final standards. In addition, some less formal standardization occurs as part of harmonization -- the formal and informal cooperation and coordination of programs to increase consistency across programs.

Activities range from using common terminology to the informal sharing of methodological approaches used to develop award criteria. It should be stressed that the ISO standards development process is ongoing. Of four proposed standards on environmental labeling, only two are close to being finalized. In addition, the Organization for Economic Cooperation Development (OECD), GEN and EU-US bilateral agreements have and will continue to foster standardization by reducing the very real barriers to information transfer, thus enabling programs to access the best, most up-to-date information available needed for individual labeling efforts. For example, research on topics such as product evaluation methodologies and data sources that occurs under the auspices of OECD (funded by OECD member countries) assists programs worldwide in learning from one another. GEN provides a current inventory of the existing standards of its members and facilitates the sharing of individual program's research. Bilateral agreements can foster mutual recognition of the larger mission of both governments and their respective labeling programs. They can also assist both parties to identify common interests and basic areas of cooperation (typically the sharing of methodologies and information). However, to the extent that the dominant programs differ in their opinions of the benefits of and need to standardize, there is a risk that ISO standards will not be finalized. If so, environmental labeling will continue to be characterized by diverse methodological approaches and inconsistency.

One example of standardization's possible effects on individual programs involves the stipulation that the development of award criteria should be based on some form of life cycle analysis. The draft ISO standards call for use of life cycle considerations in all phases of labeling: product category selection, establishment of award criteria, and product evaluation. This approach was neither feasible nor common in the 1980s, when a number of the currently active programs began. Recent trends, however, have shown that more and more programs are utilizing either full LCA or a modified version of LCA. Of the 49 programs covered in this report, 21 of them use life cycle methodologies. Several older programs, such as Japan's EcoMark, have shifted toward Life-Cycle-Assessment-based methodologies, but the investment in past standards may be problematic for programs such as Germany's Blue Angel, which have standards for 88 product categories, most based on post-manufacture phases of the life cycle. Should that program adopt a full LCA (following SETAC's guidelines), all existing standards would need to be revisited at a tremendous cost to the program.

Currently, ISO technical committees, technical advisory groups, and working groups have been organized to address standardization of a wide range of matters, including general principles of ecolabeling, guiding principles and procedures for Type I programs, guiding principles and procedures for Type III programs, and principles and framework of LCA. The draft standards for program administration recognize the benefits of transparency and non-discrimination, which some programs have been criticized for not providing. These standards, in conjunction with the development of product evaluation methodology and LCA standards, are expected to improve

programs' interactions with all interested parties, increase the efficiency of operations, improve the credibility of labeled information in the marketplace, and ultimately drive environmental quality improvements.

Consensus on the benefits of, the need for, and a definition of LCA may be elusive precisely because those participating in ISO have differing self interests. Those participating in standards development in the US delegation include all levels of government, consumer product and commercial product manufacturers (both US and foreign-owned), trade associations, consultants, academics, public interest groups, labeling programs, and testing organizations. Many programs are actively participating in the development of standards pertinent to their program. Some, such as Japan and the EU, have made interim program improvements that are consistent with draft standards. However, because the ISO process is lengthy and ever-changing, programs will be unlikely to commit resources or reinvent themselves to meet ISO standards until they are finalized.

6.3. Wedge Issues

Several issues may drive wedges between programs or otherwise constrain the growth and use of environmental labeling as an effective policy tool. Such forces range from those within the labeling programs themselves (e.g., self interest in preserving the status quo) to forces external to programs (e.g., international trade agreements) and issues involving the programs and their major customers/constituents (e.g., self-sufficient financing). The ultimate resolution of these issues cannot be predicted at this time. Of those identified in this section, some have already had real effects on labeling programs, for example, GATT prohibition of PPM restrictions. Others, such as the possible limitations of ISO standards, are described as potential obstacles. Each issue should be viewed as important and a possible determinant to the future success or failure of existing labeling programs.

Program Goals

As mentioned above, environmental labeling program mandates are very similar. One important difference among programs, however, is their differing expectations regarding the ability of labeling information to inform and educate consumers and to change consumer purchasing decisions. The seal of approval programs (ISO Type I) assume that the information needed to accurately describe numerous environmental attributes and LCA results is too complex and too extensive to present on a label. Consequently, the labeling organization synthesizes this information and establishes what it hopes to be a credible judgment of preferability (the licensing of the logo for qualifying products). On the other hand, report card programs (ISO Type III) believe that individual consumers can themselves prioritize across environmental burden (or stressor effect) categories (e.g., water consumption and air pollutants released) and that the consumer needs no interpretation. In that respect, the report cards (e.g., nutritional labeling) standardize and present environmental information.

One important difference between environmental report cards and the nutrition label is that environmental attributes are far more complex and difficult to standardize. For example, environmental impacts are typically site-specific, and differences in how the product is used and disposed of must be assumed. At present there is no conflict between these labeling approaches, since they have yet to gain significant penetration in the same market. If they do, consumer confusion might result from labeling clutter. (If products in the same category had different label types, comparisons cannot be made. Multiple labels on different products might confuse consumers.) Such differences in how consumers use label information could affect a program's suitability to label certain products, affect non-retail use of labels and labeling information, and shape their near-term objectives and goals. In an overarching sense, the competition between the differing approaches to presenting environmental information on the label can be expected to constrain information-sharing alliances and may create conflicts among programs.

Limitations to Standardization

ISO and other processes drive standardization and have already prompted several programs to change their operations. Programs may be limited, however, in facilitating certain changes at the program level. The most significant limitations may be the adoption of effective program transparency and how to reconcile new methodologies with existing program protocols and licensed awards. In addition, harmonization of nontechnical matters, such as cultural norms and values used in prioritization and tradeoff analyses among attributes, may impede mutual recognition of award criteria in particular product categories.

In the US, regulatory development is an excellent example of a readily transparent process. The regulatory agenda is published, as are preliminary proposals. All governmental analyses of the proposals are publicly available upon request, as are summary reports detailing proposals. Public comments are solicited for anywhere from 60 to 90 days at several stages. A public docket is prepared so that anyone may review all comments. Public meetings may be held at various times throughout the process. Subsequently, the Agency must respond, in the record, to each comment made, prior to revising analyses or proposals. Several rounds of proposals and public input may occur prior to the proposal of a final rule along with its estimated impacts and benefits -- based on assumptions, data sources, and analytical methodology that have been thoroughly reviewed. This is fairly costly for the government and a time-consuming process, but one that is thought to guarantee transparency and facilitates participation by as many interested parties as possible.

Environmental labeling programs, particularly those with very limited funding, may operate with limited input on the development and/or limited review of proposals for product category selection and award criteria. This streamlined approach eases development of new product categories and criteria and allows the program to better control the process. In addition to the procedural constraints, there are practical limits to widespread participation when stakeholder access is limited in duration. For example, foreign manufacturers and public interest groups are more likely to be excluded from a limited process, or one in which regular participation on ad hoc

committees is required, because of the high cost of participation. Unless there are changes to the amount of information made public and how it is disseminated at each step of the process, the more streamlined labeling programs may not comply fully with the ISO principle of transparency. Draft ISO standards also call for non-discrimination. That is, all domestic and foreign parties should be treated on an equal footing. This is an immense challenge for programs because currently there is no system to disseminate proposals and operational information and to collect input on an international scale. International information exchange efforts using the Internet, as is being tried by GEN, may help programs reach the goals of transparency and non-discrimination.

As the ISO process moves forward, each program is assessing how iy might reconcile new methodologies with its existing program. Even if the methodological differences can be standardized, mutual recognition remains the only solution to certain inherent differences among programs. Such country/market differences will certainly result in differences among award criteria for the same product. For example, Country A's market basket analysis may contain a small share of environmentally preferable performers (imported from Country B). In Country B, the share of those products may exceed 50 percent. Country A's labeling program could help to shift the market toward the environmentally preferable alternatives at the expense of its domestic manufacturers. Alternatively, the LCA could reveal that the impact of the greatest environmental burden of the product manufacture differs dramatically between the countries based on local conditions (e.g., availability of water or suitable disposal capacity). LCA itself does not incorporate cultural values.

6.4. Future Outlook

In addition to the background information presented in this report, it would be useful to have an accurate forecast of how environmental labeling activities and programs will interact with governmental policies and social concerns. Unfortunately, the future of such labeling in the marketplace is too complex. There are, however, a number of issues that are important for which trends can be projected into the near term, and others that can be identified as important but for which the near-term outcome cannot be anticipated at this time.

Given recent history and the interests of those participating, ISO efforts on draft standards are expected to continue, although there will be differences in rates of standards development and outcome. To the extent that the standard setting process involves major stakeholders and a representative (international) group of minor stakeholders, most standards are likely to be finalized. The extent to which standards are adopted by individual programs will depend upon: 1) the adoption of programmatic changes called for in draft ISO standards, such as effective and inexpensive means of ensuring transparency and public participation; and 2) the extent to which LCA and harmonization issues have been articulated and addressed during in the intervening period.

What trade issues will arise, how these conflicts are resolved, and in what venue they will be resolved (e.g., WTO decisions, bilateral negotiations) are all important near-term drivers affecting the long-term future of environmental labeling. The fact that the first few will be precedent-setting throughout the world makes them of particular interest. Consequently, those labeling programs and efforts less likely to attract trade conflicts (e.g., because their product criteria do not include PPMs or product content in a significant way), are better positioned to succeed in the short term. In the longer term, compatibility with ISO standards, trade conflict resolution precedents, and cost-effective operating practices will play an increasingly important role in the success of environmental labeling.

Demand for environmental information as provided by labeling programs is generated from several sources. The major consumers of such information are expected to continue or increase their demand in the next five to ten years. Governmental procurement programs in the US and Europe already consider environmental attributes in their decision-making and look to labeling programs as important contributions to the process. Similarly, product stewardship and vendor screening activities as related to ISO 14000 programs will foster use of such information in private sector procurement and product design. Regulatory requirements will also increase demand for environmental information. In the US, for example, facilities covered by the expansion of Toxics Release Inventory reporting to new industries will need information on the content and composition of inputs.

Demand from retail consumers is associated with knowledge of and concern about environmental issues and is far less predictable. One of the primary limitations in environmental labeling programs to date has been a lack of awareness on the part of consumers. Increased consumer awareness about environmental issues and the existence and purpose of environmental labeling could significantly affect the success of programs. If national and international news events, in combination with consumer education, increase awareness of environmental issues and labeling information is found to be credible and useful, retail consumer demand is likely to increase. The degree of change in retail consumer interest over time is, however, more uncertain. In turn, the viability of programs dependent upon fees for services and licensing fees are more at risk from any downturn in demand from customers (throughout the supply chain) than are programs with other sources of funding (such as governmental subsidies) or those programs with a diverse set of products/services (such as consulting and testing not directly related to labeling).